



**PATENT**  
Attorney Docket No. 218654  
DHHS Ref. No. E-087-96/2

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In re Application of:

Chamberlain et al.

Art Unit: 1632

Application No. 09/838,987

Examiner: Wilson, M.

Filed: September 6, 2002

For: HETEROLOGOUS  
BOOSTING IMMUNIZATION

**PENDING CLAIMS AFTER AMENDMENTS IN RESPONSE TO FINAL  
OFFICE ACTION DATED SEPTEMBER 6, 2002**

1. (Thrice Amended) A method for inducing an immune response against at least one antigen in a mammal, which method comprises:

- (i) inoculating the mammal with a first recombinant vector comprising a nucleic acid insert encoding at least one antigen against which an immune response is to be induced; and
- (ii) inoculating the mammal with a second recombinant vector comprising a nucleic acid insert encoding at least one antigen against which an immune response is to be induced, wherein the second DNA vector is different from the first DNA vector and wherein at least one antigen encoded by the insert of the first recombinant vector is encoded by the insert of the second recombinant vector, whereupon an immune response against at least one antigen is induced in the mammal.

2. The method according to claim 1, wherein the first recombinant vector is a recombinant vaccinia viral vector.

3. The method according to claim 1, wherein the first recombinant vector is a recombinant fowlpox viral vector.

4. The method according to claim 1, wherein the first recombinant vector is a recombinant adenoviral vector.

5. (Thrice Amended) The method according to claim 1, wherein the insert of the recombinant vector further comprises a nucleic acid encoding an immunostimulatory protein other than an antigen against which an immune response is to be induced.

6. The method according to claim 1, wherein the second recombinant vector is a recombinant vaccinia viral vector.

7. The method according to claim 1, wherein the second recombinant vector is a recombinant fowlpox viral vector.

8. The method according to claim 1, wherein the second recombinant vector is a recombinant adenoviral vector.

21. The method of claim 1, wherein at least one antigen against which an immune response is to be induced is a tumor-associated antigen.

22. The method of claim 5, wherein at least one antigen against which an immune response is to be induced is a tumor-associated antigen.